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Department of Energy  
Richland Operations Office  
P.O. Box 550  
Richland, Washington 99352

01-ERD-039

FEB 21 2001

Dr. L. J. Powell, Director  
Pacific Northwest National Laboratory  
Richland, Washington 99352

**RECEIVED**  
FEB 26 2001

Dear Dr. Powell:

**EDMC**

CONTRACT NO. DE-AC06-76RL01830 – SUPPORT FOR DEVELOPMENT OF A  
TECHNICAL PROTOCOL FOR ADDRESSING SOURCE ZONES AND PLUMES AT  
DENSE, NON-AQUEOUS PHASE LIQUID (DNAPL) SITES

The U.S. Department of Energy (DOE) is responsible for cleanup of the Hanford Site in southeast Washington. Among the contaminations at the site, carbon tetrachloride is present in both the groundwater and vadose zone. It is likely that near the former disposal sites, carbon tetrachloride exists as a DNAPL in the subsurface. The carbon tetrachloride plume presents significant remediation challenges due to the characteristics of the geology at the site and the large amount of waste disposed to the subsurface. The DOE and site contractors are currently evaluating characterization and remediation approaches for the plume. As part of this work, through the DOE's Office of Science and Technology Innovative Treatment Remediation Demonstration Program, Pacific Northwest National Laboratory (PNNL) recently completed a modeling study assessing the impact of differing levels of source removal on meeting a defined concentration limit at the compliance boundary for the plume. This study will be used as input to developing strategies for additional plume characterization and evaluation of remediation approaches.

It is our understanding that PNNL is proposing to develop a decision methodology incorporating geostatistical analysis; reactive transport, risk analysis, and cost assessment in an uncertainty analysis framework. We support development by the Strategic Environmental Research and Development Program (SERDP) of this probability-based decision methodology, as proposed by the research team led by PNNL. We expect that the proposed work will yield a useful protocol to evaluate the effects of source zone treatment for plumes with a DNAPL source, such as the carbon tetrachloride plume at Hanford. We welcome the opportunity to participate in the research efforts proposed by PNNL by providing them with the relevant and available data that they would need for proposed case study at Hanford.

Dr. L. J. Powell  
01-ERD-039

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If, in my capacity as a Contracting Officer's Representative (COR), I provide any direction which your company believes exceeds my COR authority, you are to immediately notify the Contracting Officer and request clarification prior to complying with the direction.

If you have any questions, or need additional information, please contact Arlene C. Tortoso, Environmental Restoration Division, on (509) 373-9631.

Sincerely,



Julie K. Erickson, Deputy Associate Manager  
for Science and Technology

ERD:ACT

cc: C. J. Murray, AG&G  
Admin Record, H6-08 (200 Area)